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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,750	04/09/2004	Yasushi Kuribayashi	036741-0133	8786
22428 7590 03/01/2007 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER WRIGHT, KAINOA	
			ART UNIT 2861	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/01/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/820,750

Applicant(s)

KURIBAYASHI, YASUSHI

Examiner

Kainoa BK Wright

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 6-19 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-5 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed on 11/28/06 is acknowledged.

### ***Response to Arguments***

2. Applicant's arguments filed on 11/28/06 have been fully considered but they are not persuasive.

Applicant contends that there is no motivation to provide the mirror of Shiraishi et al. as a stray light reflector within the system of Omura. Examiner maintains the position that there is sufficient motivation to combine the references, such motivation found in the references and in general knowledge in the art.

In response to applicants argument that the examiners conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time of the invention, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. *In re McLaughlin*, 443 F.2d 1392; 170 USPQ 209 (CCPA 1971).

In response to applicants argument that there is no suggestion to combine the references, the examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Nomiya*, 184

*USPQ 607 (CCPA 1975)*. However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosure taken as a whole would suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek, 163 USPQ 545 (CCPA) 1969*.

In this case, the essential function of the mirror of Shiraishi is to reflect incident light to a desired position. What light is being reflected and/or what the desired position is, is inconsequential. The mirror could be used in reflecting sunlight towards a piece of paper and that would not change the fact that it's function is to reflect light towards a point. Since reflection towards a point is the mirrors function, motivation to combine is suggested in the reflecting block wall of Omura, whose function is also to reflect light towards some point (i.e. a point away from the half mirrors). One of ordinary skill in the art would have naturally looked to all types of available reflectors when considering advancement on the provided reflector of Omura, not just reflectors already in use for reflecting stray light from beam splitters.

Furthermore, when combining beams for a multicolor beam printer, the beams of different colors are normally spaced at different heights. The mirror of Shiraishi et al., with it's facets, would have been an advantageous choice to use as the reflector (i.e. block wall) in Omura, because it would have provided a facet for each color being reflected off of it, thus allowing for more control of where the reflected beams end up and ensuring that the reflected beams do not interfere with image formation.

Furthermore, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the

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claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

*Ex parte Masham. 2, USPQ2d 164 (1987).*

***Claim Rejections - 35 USC § 103***

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura (US 6229656) in view of Shiraishi et al. (2001/0033408).

Omura teaches excessive light processing members 160-162 (Figure 4) for reflecting stray light emitted from optical path synthesizing members 120-122, the excessive light processing members angled to prevent excess light from interfering with the rest of the optical system by deflecting them at an angle away from the (column 9, lines 65-67 through column 10, lines 1-6). Omura teaches an optical scanner with plurality of light sources 101 (Figure 3). Omura teaches pre deflection optical units 102 for shaping the beams before aligning (Figure 3). Omura teaches optical path synthesizing units 120-122 for aligning beam paths (column 6, lines 15-20). Omura teaches a polygon deflector 5.

Omura fails to teach the excessive light processing member of a multi-stage taper construction.

Shiraishi et al. teaches multi-stage taper construction of a beam reflector 25 for reflecting a plurality of light beams at a target, the beam reflector having a number of surfaces 25Y, 25M, 25C, 25B corresponding the a number of different colored light beams to be reflected (Figure 15). Shiraishi et al. further teaches each of the surfaces to be at a different tilt angle.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the excessive light processing members of Omura to include the beam deflecting structure of Shiraishi et al. in order to deflect a plurality of excess light beams away from the optical path synthesizing members and possibly towards a common target such as an absorber that absorbs stray light.

***Allowable Subject Matter***

1. Claims 4-5 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Regarding Claim 4: The specific limitation of an excessive light processing member having a multi-stage tapered construction wherein the tilt angles of all the taper surfaces are set so that reflected light re-enters an optical path synthesizing member from which the light is emitted, the light re-entering at an angle for passing through an upper or lower portion of an optical part present in a direction where the light beams emitted from the optical path synthesizing member advance, is considered to be heretofore unknown in the art. Although this limitation does distinguish over the prior art of record, the examiner points out that the construction of the angles such that the reflected light re-enters the path synthesizing member is dependent on the placement of the excessive light processing member and can be accomplished, though it is not specifically provided for, by the structure of Omura in view of Shiraishi et al. by placing the excessive light processing member at such a distance from the optical path

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synthesizing member that the reflected beams re-enter the optical path synthesizing member.

Regarding Claim 5: The specific limitation of an excessive light processing member having a multi-stage tapered construction wherein the tilt angles of some of the taper surfaces are set so that some of the reflected light re-enters an optical path synthesizing member from which the light is emitted, the light re-entering at an angle for passing through an upper or lower portion of an optical part present in a direction where the light beams emitted from the optical path synthesizing member advance; and wherein the tilt angles of some other of the taper surfaces are set so that the other of the reflected light does not re-enter an optical path synthesizing member from which the light is emitted, is considered to be heretofore unknown in the art. Although this limitation does distinguish over the prior art of record, the examiner, similarly to claim 4, points out that the construction of the angles such that the reflected light re-enters the path synthesizing member is dependent on the placement of the excessive light processing member and can be accomplished, though it is not specifically provided for, by the structure of Omura in view of Shiraishi et al. by placing the excessive light processing member at such a distance from the optical path synthesizing member that some of the reflected beams re-enter the optical path synthesizing member and some other of the reflected beams do not re-enter the optical path synthesizing member.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shiraishi et al. (JP 11194285).

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

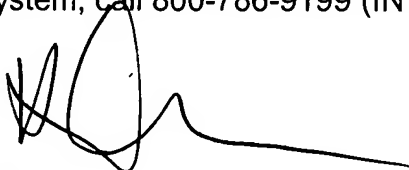
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kainoa BK Wright whose telephone number is (571) 272-5102. The examiner can normally be reached on M-F 8:00am - 5:30pm.




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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



KAI  
2/22/07



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PRIMARY EXAMINER